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EXAMINER

DESIR, PIERRE LOUIS

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/772,887	Applicant(s) CHIAM ET AL.	
	Examiner PIERRE-LOUIS DESIR	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 May 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 23-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 23-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05/28/2010 has been entered.

Response to Arguments

2. Applicant's arguments filed 05/28/2010 have been fully considered but they are not persuasive.

As stated in the previous actions, except for the newly added independent claim, the other independent claims do not differentiate between idle or non-idle state. And, what's important in the examination and the interpretation of the claim and the analysis of the applied reference is how the cited reference reads on the claims as written. There was no special disclosure that limits examiner from applying a certain reference. And, the state in which a certain action takes place should not matter as long the reference reads on the claims as written.

Applicants argue that they cannot find, nor has Examiner cited, any mention in Jeoung of viewing of sub-menu items of a sub-menu associated with another main menu item directly from the sub-menu associated with the selected main menu item by a single access of the two-dimensional navigation key. Applicants respectfully submit that it is insufficient for Examiner to

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merely address a portion of certain claim elements, while remaining silent on the remaining portion of the claim elements.

Examiner respectfully disagrees.

First, Examiner wants to respectfully remind applicants that broadly written claims are broadly interpreted by examiner. In this case, the above limitation was interpreted broadly. The language of the claim was interpreted as follows:

From the main menu, associated sub-menu item may be selected and inherently be viewed. And, from the submenu items, the user can return to the main menu to view and select another sub-menu item associated with another main menu.

In that context, Examiner wants to respectfully refer applicants to paragraph 24 of Jeoung, which applicants have not yet mentioned throughout the arguments. Paragraph 24 of Jeoung discloses that different pressing of the UP key may be assigned to a different menu item. For example, pressing of the UP key and pressing of the UP_LONG key (i.e., pressing of UP key prolonged).

Thus, it is clear that the user can switch between different menus items in the case where the pressing of the UP key is defined for a desired sub-menu associated with a first main menu, and the pressing of the UP_LONG key is assigned to a different sub-menu item associated with a different main menu.

The user may arbitrarily define hot keys to display desired menus or initiate particular functions by a single key-stroke (paragraph 26). one skilled in the art would find it obvious that the a single stroke of the UP key would allow the user to view a sub-menu associated with a first main menu, and the pressing of the UP_long key may be assigned or defined for a different sub-

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menu associated with a different main menu item, which would allow the user to view another sub-menu item associated with another main menu item directly by the pressing only the UP_ key (i.e., **single key selection**). Such disclosure, from Jeoung, and analysis clearly read on the limitation.

Applicants further argue that Landers simply teaches the navigation key allows a user to jump from a first-level menu to a second-level menu by pressing the down arrow when the point of focus is not on the last menu item. Although Landers teaches changing between hierarchical levels, Landers does not teach changing between menus on the same hierarchical level by a single access.

Examiner respectfully disagrees.

As previously disclosed, Landers describes that pressing a down arrow (or another arrow) when the point of focus is on the last menu in a set of menus can move the point of focus to an item in that last menu. In contrast, pressing the same key or arrow when the point of focus is on a menu other than the last menu will simply move the point of focus to another menu (i.e., to another menu at the same hierarchical level). Explicitly selecting a menu without a navigation routine as described is typically done by pressing a soft key with an appropriate label. For example, a user could scroll to a widget labeled "Buddy List" and then press a soft key labeled "ok"). In contrast to existing user interfaces, the exemplary system allows users to simply continue to scroll down once the Buddy List menu (if it is the last menu) is reached to move the point of focus to successive "buddies" in the Buddy List menu. Col. 2, line 64-col. 3, line 19.

This disclosure clearly reads on the "changing between menus on the hierarchical level by a single access by a single access. Also, Jeoung also disclose such disclosure in the

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description that the UP key may selected to view sub0menu item associated with a main menu item, and the UP key being pressed in a prolonged manner may be used to select another sub-menu item associated with another main menu item.

Having only the UP key being used in a prolonged manner or otherwise is equivalent to a single key access.

Newly added claim disclose "non-idle state." although Examiner has argued that specific language not being in the claims, having such language in the claim is new matter.

Furthermore, in paragraph 26 of Jeoung, it is described of accessing the keys in an idle state. Nowhere in the reference is there a disclosure that what takes place when pressing the key only happens in the idle state. Examiner believes that the disclosure of the "idle state" is simply an example of a specific situation in the idle state not an admission that the function of the keys does not work in a non-idle state.

NOTE: Examiner does understand applicants' arguments. However, broadly written claims are broadly interpreted by examiner. And, Applicants are invited to further discuss the language of the claims as to find an acceptable language which would help in an agreeable disposition of the application.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1-15 and 17, 23-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamadera (previously cited) in view of Landers (previously disclosed) and Jeoung, US 20010003097 A1.

Regarding claims 1, 32 and 34, Yamadera discloses a menu-driven electronic device (Figure 1) comprising:

- a. a display configured to selectively display one of a plurality of menus (Figure 1, element 10), including a main menu and a sub-menu (Figures 7A to 7D) and
- b. a two-dimensional navigation key including four sets of contact points (Figure 1, element 4), wherein the two dimensional navigation key is configured to select one of a plurality of main menu items of the main menu (paragraphs 42 and 59 to 63 and 76 to 82) and to select and perform an action corresponding to a sub-menu item of the sub-menu associated with a selected main menu item (Id.).

Although Yamadera discloses a device as described, Yamadera does not specifically disclose a device wherein the two dimensional key is configured as a single button and wherein the four sets of contact points are used to select and perform an action corresponding to one of a plurality of main menu items.

However, Landers discloses a mobile station that includes a menu display routine which can be executed by a processor to display a set of menus. The set of menus will range from a first menu to a last menu, and at least one menu of the set defines, in turn, a set of menu items. Each set of menu items can similarly range from a first menu item to a last menu item (see col. 2, lines 3-10).

Thus, Landers discloses a set of menu and sub-menu.

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Now, in regard to how to access the menu and sub-menu items, the following has been disclosed.

The mobile station may also include a “point of focus” routine stored in the data storage. The point of focus routine is executable by the processor to provide a single point of focus in or on one of the menus. The mobile station may also include a navigation routine stored in the data storage, which is executable by the processor. The processor executes the navigation routine in response to user invocation. When the point of focus is on a particular menu other than the last menu, user invocation of the navigation routine causes the processor to move the point of focus to a menu other than that particular menu. When the point of focus is on the last menu, user invocation of the navigation routine causes the processor to move the point of focus to a menu item in the last menu. Col. 2, lines 12-24.

Thus, using a navigation routine, the last menu is selected when the point of focus is on it, which causes the processor to move the point of focus to a menu item in the last menu.

Landers also discloses that the navigation key may be used to allow a user to cycle through different objects, menus, or both, that are displayed on the device. When a GUI object or menu is in focus, the GUI's soft key labels can change accordingly. Pressing a key associated with the contextual soft key label will execute the indicated action on the object that is in focus. Col. 2, lines 53-63.

As can be seen above, after using the navigation key, which allows a user to cycle through different objects, menus, or both that are displayed on the device, a soft key is pressed to execute the indicated action on the object that is in focus.

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Therefore, although Landers discloses using a two-dimensional key configured as a single button, a soft key is pressed to execute the indicated action.

However, Landers also discloses that the number of keystrokes required to perform a function when using a GUI can be reduced by changing the functionality of the navigation key depending on where the point of focus is.

A navigation routine stored in memory can be invoked to change the functionality. For example, pressing a down arrow (or another arrow) when the point of focus is on the last menu in a set of menus can move the point of focus to an item in that last menu. In contrast, pressing the same key or arrow when the point of focus is on a menu other than the last menu will simply move the point of focus to another menu (i.e., to another menu at the same hierarchical level). (Explicitly selecting a menu without a navigation routine as described is typically done by pressing a soft key with an appropriate label. For example, a user could scroll to a widget labeled "Buddy List" and then press a soft key labeled "ok"). In contrast to existing user interfaces, the exemplary system allows users to simply continue to scroll down once the Buddy List menu (if it is the last menu) is reached to move the point of focus to successive "buddies" in the Buddy List menu. Col. 2, line 64-col. 3, line 19.

Therefore, Landers discloses that both a menu and sub-menu items can be selected and indicated action may be performed on the selected item using the navigation key.

In fig. 4, Landers illustrates a mobile station that may be used in accordance with these navigation principles. As shown, display 42 of mobile station 40 may include a main menu 44, a status indicator 46, and a buddy list menu 48. The mobile station 40 may also include soft keys 50 and 52, together with associated soft key label areas 50a and 52a on display 42 directly

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above the soft keys. Pressing a soft key executes a function indicated by the currently displayed soft key label. The mobile station 40 may also include a four-way navigation key 54. The display of mobile station 40 of FIG. 4 depicts the graphical user interface of a digital messaging application program that can be used in accordance with the present system.

If the "Compose to . . ." item in the Buddy List menu 48 is initially in focus as shown, the text of the item will appear light on a dark background to indicate the point of focus, whereas all other selectable text of the display 42 may be dark on a light or intermediate background. Generally, when a drop-down list of menu items is active (that is, when the user has navigated to the top-level menu associated with the list), the background of the drop-down list may appear light to distinguish over the rest of the display background which may be at an intermediate contrast, as shown. The functions of the navigation routines described above apply to mobile station 40 where the Buddy List menu 48 is the last menu, status indicator 46 is an intermediate object at the same hierarchical level as menu 48, and main menu 44 is the first menu. Main menu 44 has an associated list of items that are not shown in the figure, but that can be shown when the menu is selected by executing a navigation routine or pressing a soft key when the point of focus is on the main menu. Col. 5, line 56-col. 6, line 22.

Thus, Landers discloses a mobile device comprising two soft keys and two-dimensional navigation key configured as a single button including four sets of contact points, wherein the four sets of contact points are used to select and perform an action corresponding to one of a plurality of main menu items and to select and perform an action corresponding to a sub-menu item of the sub-menu associated with a selected main menu item.

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Although Landers discloses that soft key may be pressed to execute the indicated action on the object that is in focus, in order to reduce the number of keystrokes, the navigation key may be utilized to select both a menu and sub-menu items, wherein indicated action may be performed on the selected item using the navigation key

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described by Landers with the teachings of Yamadera to arrive at the claimed invention. A motivation for doing so would have been to provide a navigation routine capable of reducing keystrokes and make the interface easier to use and more intuitive.

The combination of Yamadera with Landers, however, does not expressly disclose "wherein the two-dimensional navigation key is configured to allow viewing of submenu items of the submenu associated with another main menu item directly from the sub-menu associated with the selected main menu item by a single access of the two-dimensional navigation key."

Jeoung discloses defining hot keys to immediately initiate desired functions by a user in a communication terminal comprises displaying a plurality of main menu items in the hot key defining mode, displaying a plurality of submenu items corresponding to a particular main menu item selected by the user, selecting at least one of the submenu items by the user, displaying the keys used for the hot keys, and selecting one of the key as a hot keys assigned to the at least one submenu (see abstract and paragraph 8).

Further, Jeoung discloses a control unit that displays a list of keys used for the hot keys, e.g., UP key, Down Key, LEFT key, Right Key, UP_long key (pressing of UP key prolonged), DOWN_LONG key, LEFT_LONG key and RIGHT LONG key. The user selects one of the keys

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listed as the hot key corresponding to the selected submenu item. Thus, if the control unit detects a particular key selected, it proceeds to assign the selected key as the designated hot key to the selected submenu item (see paragraph 24). Then, the control unit assigns the selected key to the selected sub-menu item, displaying a message notifying the completion of defining the hot key (paragraph 25). While a hot key linked to one particular function is pressed to immediately execute the linked function, a hot key linked to multiple functions can be pressed to display the multiple menu items for the user to select one of them (paragraph 26). The user may arbitrarily define hot keys to display desired menus or initiate particular functions by a single key-stroke (paragraph 27).

Thus, Keeping in mind Landers which discloses toggling back and forth between menu and submenu, wherein a user can view menu items and related main menu items and submenu items, combining Jeoung with Yamadera and Landers would present a device wherein directional arrows or keys (i.e., left, right, up, down) are programmed to display a particular main menu item, and submenu menu items associated with any of the main menu item using a single key-stroke.

In the abstract and paragraphs 20-26, it is disclosed navigation keys to generate key data are included in a key input. The navigation keys are used as the hot keys that are predefined by a user to initiate desired functions. A plurality of main menu items in the ht key defining mode may be displayed wherein a plurality of sub-menu items corresponding to a particular main menu item may be selected by the user. Therefore, whenever the user selects a sub-menu item, the user also selects the main menu to which the sub-menu item is related.

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In paragraph 24, it is disclosed that different pressing of the UP key may be assigned to a different menu item. For example, pressing of the UP key and pressing of the UP_LONG key (i.e., pressing of UP key prolonged).

Thus, it is clear that the user can switch between different menu items in the case where the pressing of the UP key is defined for a desired sub-menu associated with a first main menu, and the pressing of the UP_LONG key is assigned to a different sub-menu item associated with a different main menu.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have combined the references as described to arrive at the claimed invention. A motivation for doing so would have been enhance the use of the device by immediately initiating specific functions desired by a user.

Regarding claim 23, Yamadera discloses a menu-driven wireless telecommunications device (Figure 1) comprising:

- a. a display configured to selectively display at least one of a plurality of menus (Figure 1, element 10), including a main menu and a first sub-menu (Figures 7a to 7D), and
- b. a two-dimensional navigation key including four sets of contact points (Figure 1, element 4), wherein the two-dimensional navigation key is configured to select and perform corresponding to one of a plurality of main menu items of the main menu (paragraphs 42, 59 to 63 and 76 to 82), to select and perform an action corresponding to a first sub-menu associated with a selected main menu item (Id.), and further to select and perform an action corresponding to a second sub-menu item of the second sub-menu associated with the selected main menu item (Id.).

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Although Yamadera discloses a device as described, Yamadera does not specifically disclose a device wherein the two dimensional key is configured as a single button and wherein the four sets of contact points are used to select and perform an action corresponding to one of a plurality of main menu items.

However, Landers discloses a mobile station that includes a menu display routine which can be executed by a processor to display a set of menus. The set of menus will range from a first menu to a last menu, and at least one menu of the set defines, in turn, a set of menu items. Each set of menu items can similarly range from a first menu item to a last menu item (see col. 2, lines 3-10).

Thus, Landers discloses a set of menu and sub-menu.

Now, in regard to how to access the menu and sub-menu items, the following has been disclosed.

The mobile station may also include a “point of focus” routine stored in the data storage. The point of focus routine is executable by the processor to provide a single point of focus in or on one of the menus. The mobile station may also include a navigation routine stored in the data storage, which is executable by the processor. The processor executes the navigation routine in response to user invocation. When the point of focus is on a particular menu other than the last menu, user invocation of the navigation routine causes the processor to move the point of focus to a menu other than that particular menu. When the point of focus is on the last menu, user invocation of the navigation routine causes the processor to move the point of focus to a menu item in the last menu. Col. 2, lines 12-24.

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Thus, using a navigation routine, the last menu is selected when the point of focus is on it, which causes the processor to move the point of focus to a menu item in the last menu.

Landers also discloses that the navigation key may be used to allow a user to cycle through different objects, menus, or both, that are displayed on the device. When a GUI object or menu is in focus, the GUI's soft key labels can change accordingly. Pressing a key associated with the contextual soft key label will execute the indicated action on the object that is in focus. Col. 2, lines 53-63.

As can be seen above, after using the navigation key, which allows a user to cycle through different objects, menus, or both that are displayed on the device, a soft key is pressed to execute the indicated action on the object that is in focus.

Therefore, although Landers discloses using a two-dimensional key configured as a single button, a soft key is pressed to execute the indicated action.

However, Landers also discloses that the number of keystrokes required to perform a function when using a GUI can be reduced by changing the functionality of the navigation key depending on where the point of focus is.

A navigation routine stored in memory can be invoked to change the functionality. For example, pressing a down arrow (or another arrow) when the point of focus is on the last menu in a set of menus can move the point of focus to an item in that last menu. In contrast, pressing the same key or arrow when the point of focus is on a menu other than the last menu will simply move the point of focus to another menu (i.e., to another menu at the same hierarchical level). (Explicitly selecting a menu without a navigation routine as described is typically done by pressing a soft key with an appropriate label. For example, a user could scroll to a widget

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labeled "Buddy List" and then press a soft key labeled "ok"). In contrast to existing user interfaces, the exemplary system allows users to simply continue to scroll down once the Buddy List menu (if it is the last menu) is reached to move the point of focus to successive "buddies" in the Buddy List menu. Col. 2, line 64-col. 3, line 19.

Therefore, Landers discloses that both a menu and sub-menu items can be selected and indicated action may be performed on the selected item using the navigation key.

In fig. 4, Landers illustrates a mobile station that may be used in accordance with these navigation principles. As shown, display 42 of mobile station 40 may include a main menu 44, a status indicator 46, and a buddy list menu 48. The mobile station 40 may also include soft keys 50 and 52, together with associated soft key label areas 50a and 52a on display 42 directly above the soft keys. Pressing a soft key executes a function indicated by the currently displayed soft key label. The mobile station 40 may also include a four-way navigation key 54. The display of mobile station 40 of FIG. 4 depicts the graphical user interface of a digital messaging application program that can be used in accordance with the present system.

If the "Compose to . . ." item in the Buddy List menu 48 is initially in focus as shown, the text of the item will appear light on a dark background to indicate the point of focus, whereas all other selectable text of the display 42 may be dark on a light or intermediate background. Generally, when a drop-down list of menu items is active (that is, when the user has navigated to the top-level menu associated with the list), the background of the drop-down list may appear light to distinguish over the rest of the display background which may be at an intermediate contrast, as shown. The functions of the navigation routines described above apply to mobile station 40 where the Buddy List menu 48 is the last menu, status indicator 46 is an intermediate

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object at the same hierarchical level as menu 48, and main menu 44 is the first menu. Main menu 44 has an associated list of items that are not shown in the figure, but that can be shown when the menu is selected by executing a navigation routine or pressing a soft key when the point of focus is on the main menu. Col. 5, line 56-col. 6, line 22.

Thus, Landers discloses a mobile device comprising two soft keys and two-dimensional navigation key configured as a single button including four sets of contact points, wherein the four sets of contact points are used to select and perform an action corresponding to one of a plurality of main menu items and to select and perform an action corresponding to a sub-menu item of the sub-menu associated with a selected main menu item.

Although Landers discloses that soft key may be pressed to execute the indicated action on the object that is in focus, in order to reduce the number of keystrokes, the navigation key may be utilized to select both a menu and sub-menu items, wherein indicated action may be performed on the selected item using the navigation key

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described by Landers with the teachings of Yamadera to arrive at the claimed invention. A motivation for doing so would have been to provide a navigation routine capable of reducing keystrokes and make the interface easier to use and more intuitive.

The combination of Yamadera with Landers, however, does not expressly disclose "wherein the two-dimensional navigation key is configured to allow viewing of submenu items of the submenu associated with another main menu item directly from the sub-menu associated with the selected main menu item by a single access of the two-dimensional navigation key."

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Jeoung discloses defining hot keys to immediately initiate desired functions by a user in a communication terminal comprises displaying a plurality of main menu items in the hot key defining mode, displaying a plurality of submenu items corresponding to a particular main menu item selected by the user, selecting at least one of the submenu items by the user, displaying the keys used for the hot keys, and selecting one of the key as a hot keys assigned to the at least one submenu (see abstract and paragraph 8).

Further, Jeoung discloses a control unit that displays a list of keys used for the hot keys, e.g., UP key, Down Key, LEFT key, Right Key, UP_long key (pressing of UP key prolonged), DOWN_LONG key, LEFT_LONG key and RIGHT LONG key. The user selects one of the keys listed as the hot key corresponding to the selected submenu item. Thus, if the control unit detects a particular key selected, it proceeds to assign the selected key as the designated hot key to the selected submenu item (see paragraph 24). Then, the control unit assigns the selected key to the selected sub-menu item, displaying a message notifying the completion of defining the hot key (paragraph 25). While a hot key linked to one particular function is pressed to immediately execute the linked function, a hot key linked to multiple functions can be pressed to display the multiple menu items for the user to select one of them (paragraph 26). The user may arbitrarily define hot keys to display desired menus or initiate particular functions by a single key-stroke (paragraph 27).

Thus, Keeping in mind Landers which discloses toggling back and forth between menu and submenu, wherein a user can view menu items and related main menu items and submenu items, combining Jeoung with Yamadera and Landers would present a device wherein directional arrows or keys (i.e., left, right, up, down) are programmed to display a particular

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main menu item, and submenu menu items associated with any of the main menu item using a single key-stroke.

In the abstract and paragraphs 20-26, it is disclosed navigation keys to generate key data are included in a key input. The navigation keys are used as the hot keys that are predefined by a user to initiate desired functions. A plurality of main menu items in the ht key defining mode may be displayed wherein a plurality of sub-menu items corresponding to a particular main menu item may be selected by the user. Therefore, whenever the user selects a sub-menu item, the user also selects the main menu to which the sub-menu item is related.

In paragraph 24, it is discloses that different pressing of the UP key may be assigned to a different menu item. For example, pressing of the UP key and pressing of the UP_LONG key (i.e., pressing of UP key prolonged).

Thus, it is clear that the user can switch between different menus items in the case where the pressing of the UP key is defined for a desired sub-menu associated with a first main menu, and the pressing of the UP_LONG key is assigned to a different sub-menu item associated with a different main menu.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have combined the references as described to arrive at the claimed invention. A motivation for doing so would have been enhance the use of the device by immediately initiating specific functions desired by a user.

Regarding claim 27, Yamadera discloses a menu-driven wireless telecommunications device (Figure 1) comprising a. a display configured to selectively display at least one of a plurality of menu trees (Figure 1, element 10), including a plurality of main menus, each having

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a plurality of sub-menus (Figures 7A to 7D); and b. a two-dimensional navigation key configured to operate along two orthogonal paths such that each of the orthogonal paths has two directions along the path wherein operating the key along a first of the orthogonal paths selects a preferred main menu from among the plurality of main menus (i.e., with the menu item selection screen 10c displayed, the user tilts the cursor key 4 in one of four directions--up, down, right, and left--to move the cursor 45 to one of the icons 11b, 11c, 11d, and 11e to select a menu item) (see fig. 1, element 4, and paragraph 77); operating the key along a second of the orthogonal paths selects a preferred sub-menu among the plurality of sub-menus (i.e., the second-hierarchical-level submenu items of the selected menu item are displayed in the direction perpendicular to the direction in which the cursor key 4 was tilted) (see paragraph 77); and operating the key along the first orthogonal path activates the selected sub-menu (i.e., the user tilts the cursor key 4 in the right direction as shown in FIG. 7B to select the icon 11d (menu item 24). Then, submenu items 26 and 27 that constitute the second hierarchical level of the menu item 24 are displayed as icons 11m and 11n in the direction (up and down directions) perpendicular to the direction in which the cursor key 4 was tilted. In FIG. 7B, the unselected icons 11b, 11c, and 11e are dimmed (indicated by broken lines in the figure), while the location where the cursor 45 was displayed before it was moved to the icon 11d, that is, the icon 11a indicated by hatching in the figure, remains displayed on the menu item selection screen 10c. This allows the user to understand how the cursor 45 moved. When the user tilts the cursor key 4 in one of up, down, right, and left directions with the screen in FIG. 7B displayed, the third-hierarchical-level submenu items composed of the lower level items of the second hierarchical level are displayed in the direction perpendicular to the direction in which the cursor key 4 was

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tilted. In this embodiment, the user tilts the cursor key 4 in the down direction as shown in FIG. 7C to select the icon 11n (submenu item 27). Then, the icon 11n moves and submenu items 28 and 29, which are third-hierarchical-level submenu items of the submenu item 27, are displayed on the sides of the moved icon 11n; that is, those icons are displayed as icons 11p and 11q in the direction (right and left directions) perpendicular to the direction in which the cursor key 4 was tilted) (see paragraphs 77-78).

Although Yamadera discloses a device as described, Yamadera does not specifically disclose a device wherein the two dimensional key is configured as a single button.

However, Landers discloses a mobile station that includes a menu display routine which can be executed by a processor to display a set of menus. The set of menus will range from a first menu to a last menu, and at least one menu of the set defines, in turn, a set of menu items. Each set of menu items can similarly range from a first menu item to a last menu item (see col. 2, lines 3-10).

Thus, Landers discloses a set of menu and sub-menu.

Now, in regard to how to access the menu and sub-menu items, the following has been disclosed.

The mobile station may also include a “point of focus” routine stored in the data storage. The point of focus routine is executable by the processor to provide a single point of focus in or on one of the menus. The mobile station may also include a navigation routine stored in the data storage, which is executable by the processor. The processor executes the navigation routine in response to user invocation. When the point of focus is on a particular menu other than the last menu, user invocation of the navigation routine causes the processor to move the point of focus

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to a menu other than that particular menu. When the point of focus is on the last menu, user invocation of the navigation routine causes the processor to move the point of focus to a menu item in the last menu. Col. 2, lines 12-24.

Thus, using a navigation routine, the last menu is selected when the point of focus is on it, which causes the processor to move the point of focus to a menu item in the last menu.

Landers also discloses that the navigation key may be used to allow a user to cycle through different objects, menus, or both, that are displayed on the device. When a GUI object or menu is in focus, the GUI's soft key labels can change accordingly. Pressing a key associated with the contextual soft key label will execute the indicated action on the object that is in focus. Col. 2, lines 53-63.

As can be seen above, after using the navigation key, which allows a user to cycle through different objects, menus, or both that are displayed on the device, a soft key is pressed to execute the indicated action on the object that is in focus.

Therefore, although Landers discloses using a two-dimensional key configured as a single button, a soft key is pressed to execute the indicated action.

However, Landers also discloses that the number of keystrokes required to perform a function when using a GUI can be reduced by changing the functionality of the navigation key depending on where the point of focus is.

A navigation routine stored in memory can be invoked to change the functionality. For example, pressing a down arrow (or another arrow) when the point of focus is on the last menu in a set of menus can move the point of focus to an item in that last menu. In contrast, pressing the same key or arrow when the point of focus is on a menu other than the last menu will simply

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move the point of focus to another menu (i.e., to another menu at the same hierarchical level). (Explicitly selecting a menu without a navigation routine as described is typically done by pressing a soft key with an appropriate label. For example, a user could scroll to a widget labeled "Buddy List" and then press a soft key labeled "ok"). In contrast to existing user interfaces, the exemplary system allows users to simply continue to scroll down once the Buddy List menu (if it is the last menu) is reached to move the point of focus to successive "buddies" in the Buddy List menu. Col. 2, line 64-col. 3, line 19.

In fig. 4, Landers illustrates a mobile station that may be used in accordance with these navigation principles. As shown, display 42 of mobile station 40 may include a main menu 44, a status indicator 46, and a buddy list menu 48. The mobile station 40 may also include soft keys 50 and 52, together with associated soft key label areas 50a and 52a on display 42 directly above the soft keys. Pressing a soft key executes a function indicated by the currently displayed soft key label. The mobile station 40 may also include a four-way navigation key 54. The display of mobile station 40 of FIG. 4 depicts the graphical user interface of a digital messaging application program that can be used in accordance with the present system.

If the "Compose to . . ." item in the Buddy List menu 48 is initially in focus as shown, the text of the item will appear light on a dark background to indicate the point of focus, whereas all other selectable text of the display 42 may be dark on a light or intermediate background. Generally, when a drop-down list of menu items is active (that is, when the user has navigated to the top-level menu associated with the list), the background of the drop-down list may appear light to distinguish over the rest of the display background which may be at an intermediate

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contrast, as shown. The functions of the navigation routines described above apply to mobile station 40 where the Buddy List menu 48 is the last menu, status indicator 46 is an intermediate object at the same hierarchical level as menu 48, and main menu 44 is the first menu. Main menu 44 has an associated list of items that are not shown in the figure, but that can be shown when the menu is selected by executing a navigation routine or pressing a soft key when the point of focus is on the main menu. Col. 5, line 56-col. 6, line 22.

Also, it should be noted that Landers discloses that action may be executed on a particular menu, object, or item by executing a navigation routine or pressing a soft key when the point of focus is on the main menu, object, and sub-menu (see col. 6, lines 4-22). Thus, the selection and execution of action may be done by executing a navigation routine or pressing a soft key when the point of focus is on the main menu, object, and sub-menu.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described by Landers with the teachings of Yamadera to arrive at the claimed invention. A motivation for doing so would have been to provide a navigation routine capable of reducing keystrokes and make the interface easier to use and more intuitive (see col. 4, lines 16-17).

The combination of Yamadera with Landers, however, does not expressly disclose "wherein the two-dimensional navigation key is configured to allow viewing of submenu items of the submenu associated with another main menu item directly from the sub-menu associated with the selected main menu item by a single access of the two-dimensional navigation key."

Jeoung discloses defining hot keys to immediately initiate desired functions by a user in a communication terminal comprises displaying a plurality of main menu items in the hot key

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defining mode, displaying a plurality of submenu items corresponding to a particular main menu item selected by the user, selecting at least one of the submenu items by the user, displaying the keys used for the hot keys, and selecting one of the key as a hot keys assigned to the at least one submenu (see abstract and paragraph 8).

Further, Jeoung discloses a control unit that displays a list of keys used for the hot keys, e.g., UP key, Down Key, LEFT key, Right Key, UP_long key (pressing of UP key prolonged), DOWN_LONG key, LEFT_LONG key and RIGHT LONG key. The user selects one of the keys listed as the hot key corresponding to the selected submenu item. Thus, if the control unit detects a particular key selected, it proceeds to assign the selected key as the designated hot key to the selected submenu item (see paragraph 24). Then, the control unit assigns the selected key to the selected sub-menu item, displaying a message notifying the completion of defining the hot key (paragraph 25). While a hot key linked to one particular function is pressed to immediately execute the linked function, a hot key linked to multiple functions can be pressed to display the multiple menu items for the user to select one of them (paragraph 26). The user may arbitrarily define hot keys to display desired menus or initiate particular functions by a single key-stroke (paragraph 27).

Thus, Keeping in mind Landers which discloses toggling back and forth between menu and submenu, wherein a user can view menu items and related main menu items and submenu items, combining Jeoung with Yamadera and Landers would present a device wherein directional arrows or keys (i.e., left, right, up, down) are programmed to display a particular main menu item, and submenu menu items associated with any of the main menu item using a single key-stroke.

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In the abstract and paragraphs 20-26, it is disclosed navigation keys to generate key data are included in a key input. The navigation keys are used as the hot keys that are predefined by a user to initiate desired functions. A plurality of main menu items in the ht key defining mode may be displayed wherein a plurality of sub-menu items corresponding to a particular main menu item may be selected by the user. Therefore, whenever the user selects a sub-menu item, the user also selects the main menu to which the sub-menu item is related.

In paragraph 24, it is discloses that different pressing of the UP key may be assigned to a different menu item. For example, pressing of the UP key and pressing of the UP_LONG key (i.e., pressing of UP key prolonged).

Thus, it is clear that the user can switch between different menus items in the case where the pressing of the UP key is defined for a desired sub-menu associated with a first main menu, and the pressing of the UP_LONG key is assigned to a different sub-menu item associated with a different main menu.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have combined the references as described to arrive at the claimed invention. A motivation for doing so would have been enhance the use of the device by immediately initiating specific functions desired by a user.

Regarding claims 2 and 40, Yamadera discloses a device (see claim 1 rejection) wherein at least a portion of the plurality of main menu items is displayed (Figure 1), and further wherein both the main menu and the sub-menu can be accessed by maintaining contact with the two-dimensional key. See paragraphs 60 and 62, it would be inherent that a user could navigate through the menus by maintaining contact with the navigation keys.

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Regarding claim 3, Yamadera discloses a device (see claim 1 rejection) wherein the device is configured to allow navigation through the plurality of menus by using the two-dimensional navigation key. Id.

Regarding claim 4, Yamadera discloses a device (see claim 1 rejection) wherein the device is configured to allow navigation through the plurality of menus while maintaining tactile contact with the two-dimensional navigation key. See claim 2 and 3.

Regarding claim 5, Yamadera discloses a device (see claim 1 rejection) wherein the device is configured to allow toggling among the at least two control levels by a single access of the two-dimensional navigation key. See paragraphs 60 to 63.

Regarding claim 6, Yamadera discloses a device (see claim 1 rejection) wherein the device is configured to allow toggling between the main menu and one of the plurality of main menu items by using a first direction of the two-dimensional navigation key and to allow toggling between the selected main menu item and the sub-menu associated with the selected main menu item by using a second direction of the two-dimensional navigation key. See e.g. paragraph 64.

Regarding claims 7 and 33, Yamadera discloses a device (see claim 1 rejection) wherein the device is configured to allow scrolling among at least two control levels by a single access of the two-dimensional navigation key. See paragraphs 60 to 64.

Regarding claims 8 and 37, Yamadera discloses a device (see claim 1 rejection) wherein the device is configured to display the selected main menu item simultaneously with the sub-menu associated with the selected main menu item. See Figure 7B and its corresponding description.

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Regarding claim 9, Yamadera discloses a device (see claim 1 rejection) wherein the device is configured to display the selected main menu item simultaneously with a plurality of sub-menu items associated with the selected main menu item. See Figure 7B and its corresponding description.

Regarding claim 10, Yamadera discloses a device (see claim 1 rejection) wherein the plurality of menus are organized in a menu tree. See Figure 2.

Regarding claim 11, Yamadera discloses a device (see claim 1 rejection) wherein the main menu further comprises a main menu item icon representing a main menu item. See Figure 7A and its corresponding description.

Regarding claim 12, Yamadera discloses a device (see claim 11 rejection) wherein the device is configured to display the main menu item icon to provide a visual reference to an item in the menu tree of the menu being displayed. See Figures 7A-D and their corresponding descriptions.

Regarding claims 13 and 39, Yamadera discloses a device (see claim 12 rejection) wherein when the device displays at least a portion of the main menu, the main menu item icon is displayed in a first appearance, and when the device displays the sub-menu, the main menu item icon is displayed in a second appearance different from the first appearance. See Figures 7A-7C and their corresponding descriptions.

Regarding claim 14, Yamadera discloses a device (see claim 13 rejection) wherein the first appearance differs from the second appearance by at least one of size, shape, color, highlighting, and pattern. Id.

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Regarding claim 15, Yamadera also teaches all the elements of dependent claim 15, except wherein when the device displays the sub-menu, the main menu item icon is displayed in a third size different from the first size and the second size. However, see MPEP 2144, changing the size of an element of the claimed invention does not patentably distinguish the claimed invention. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to change the size of the main menu icon to various sizes, including a different size than either the first or second size.

Regarding claim 17, Yamadera discloses a device (see claim 1 rejection) wherein the device is a phone. See Figure 1 and its corresponding description.

Regarding claims 24, 35, 36, and 38, Yamadera discloses a device (see claim 23 rejection) wherein the device is configured to allow scrolling between the main menu and one of the plurality of main menu items by using a first direction of the two-dimensional navigation key (paragraphs 76 to 77), to allow scrolling between the selected main menu item and the first sub-menu associated with the selected main menu item by using a second direction of the two-dimensional navigation key (Id.), and further to allow scrolling between the second sub-menu associated with the selected main menu item and a second sub-menu item by using a third direction of the two-dimensional navigation key (paragraphs 78 to 79).

Regarding claims 25, Yamadera discloses all the elements of dependent claim 25, except wherein the third direction corresponds with the first direction of the two-dimensional navigation key. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to understand that the directions used to select the first and third directions could be the same because Yamadera teaches that the first direction may be up and the third

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direction may be pointed in any of four directions, up, down, right, or left (horizontal and vertical position). See Yamadera, paragraph 78.

Regarding claim 26, Yamadera discloses a device (see claim 23 rejection), including wherein the device is configured to display a main menu item icon to provide a visual reference to an item in a menu tree of the menu being displayed. See Figures 7A-D.

Regarding claim 28, Yamadera discloses a device (see claim 27 rejection) wherein when the menu trees have multiple sub-menu levels such that each next level is traversed by changing between the first orthogonal path and the second orthogonal path unto a lowest level is achieved wherein a selected lowest level sub-menu is activated by changing between the first orthogonal path and the second orthogonal path (see paragraphs 77-79).

Regarding claim 29, Yamadera discloses a device (see claim 27 rejection) wherein the plurality of menus includes a first sub-menu and a second sub-menu, wherein the first sub-menu further comprises a plurality of first sub-menu items (Id.) and further wherein one of the plurality of first sub-menu items is associated to a second sub-menu (Id.) (see paragraphs 77-79 and Figures 7A-D and their corresponding descriptions).

Regarding claim 30, Yamadera discloses a device (see claim 29 rejection) wherein the second sub-menu further comprises a plurality of second sub-menu items. Figures 7A-D and their corresponding descriptions.

Regarding claim 31, Yamadera discloses a device (see claim 30 rejection), wherein a third orientation of the two-dimensional navigation key is configured to select one of the

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plurality of second sub-menu items. See paragraphs 77 to 81.

5. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamadera, Landers and Jeoung, further in view of U.S. Patent No. 6,463,304 to Smethers.

Yamadera also teaches all the elements of dependent claim 16, except wherein the main menu further comprises a non-graphical listing of the plurality of sub-menu items of the sub-menu associated with the selected main menu item.

However, Smethers, in the same field of endeavor teaches the use of non-graphical listings in addition to icons. See e.g. Figure 3B.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use non-graphical listings in the sub-menus, for example because a listing of "content channels" is more efficient than attempting to describe them using icons, as in Smethers. See column 6, lines 35 to 45.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PIERRE-LOUIS DESIR whose telephone number is (571)272-7799. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost can be reached on (571)272-7023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/PIERRE-LOUIS DESIR/
Examiner, Art Unit 2617